

## **SECTION 2**

### **AFFECTED ENVIRONMENT, POTENTIAL IMPACTS AND MEASURES TO MITIGATE IMPACTS**

As with all proposed projects, MDOT and FHWA have conducted a review of potential social, economic, and environmental impacts associated with the proposed project. Impacts that had a reasonable possibility for individual or cumulative significant impacts were analyzed further. The result of this analysis and measures to minimize short-term impacts during construction are discussed below. Specific mitigation measures are included in the Project Mitigation Summary Green Sheet located at the end of this section.

#### **2.1 RIGHT-OF-WAY IMPACTS/EASEMENTS**

In order to improve the existing I-196/Chicago Drive Interchange and widen Baldwin Street from two to five lanes, MDOT will need to acquire right-of-way (ROW) along the north side of Baldwin Street beginning at the Baldwin Street/Main Street intersection easterly to the non-motorized trailhead parking lot adjacent to the Grandville Wastewater Treatment facility. The existing ROW on Baldwin Street is 66 feet. With the Preferred Alternative, approximately 15 feet of additional ROW will be needed along the north side of Baldwin Street. Temporary grading permits (5 to 10 feet) will be required along both sides of Baldwin Street to perform minor grading behind the proposed curb and gutter and to relocate the sidewalk.

It is expected that MDOT will not displace any residential or commercial structures. However, the proposed roadway will be moved 8 feet closer to a residential structure located in the northeast corner of Baldwin and River Streets. During design, the proposed Baldwin Street grading limits will be reviewed to determine if the residential structure will be directly impacted by the project. Partial property acquisitions are required from the city of Grandville (vacant land from a wastewater treatment plant) and the Georgetown Township Fire Department (vacant house and garage) located on the north side of Baldwin Street. The fire department utilizes the vacant structures for fire and rescue training and the structures will be removed prior to the ROW acquisition phase of this project.

A minor ROW acquisition will be required from the Jenison Baptist Temple property located on the corner of Baldwin and Main Streets. A vacant portion of the property and no buildings, trees, or parking areas will be impacted. Segments of the existing sidewalk adjacent to the church property will be removed and replaced in the same location.

A 14-foot strip of ROW will be acquired along the south side of Baldwin Street at the west end of the project from a commercial strip shopping center. While the shopping center may lose two parking spaces, ingress/egress to the shopping center will be improved by the reconfiguration of their existing drive opening.

## **Mitigation of Right-Of-Way Acquisition and Relocation Impacts**

**Compliance with State and Federal laws** – Acquisition and relocation assistance and advisory services will be provided by the MDOT in accordance and compliance with Act 31, Michigan P.A. 1970; Act 227, Michigan P.A. 1972; the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended; and Act 87, Michigan P.A. 1980, as amended. The MDOT will inform individuals, businesses and non-profit organizations of the impact, if any, of the project on their property. Every effort will be made through relocation assistance to lessen the impact when it occurs.

**Residential** – The MDOT is required by statute to determine the availability of comparable, decent, safe, and sanitary housing for eligible displaced individuals. The MDOT has specific programs to implement the statutory and constitutional requirements of property acquisition and relocation of eligible displacees. Appropriate measures will be taken to ensure that all eligible displaced individuals are advised of the rights, benefits, and courses of action available to them.

**Business, Farms or Non-Profit Organizations** – The MDOT is required by statute to offer relocation assistance to displaced businesses, farms and non-profit organizations. The MDOT has specific programs that will implement the statutory and constitutional requirements of property acquisition and relocation of eligible displacees. Appropriate measures will be taken to ensure that all eligible displaced businesses, farms or non-profit organizations are advised of the rights, benefits, and courses of action available to them. Displaced businesses and organizations will be encouraged to relocate within the same community.

**Purchasing Property** – The MDOT will pay just compensation for fee purchase or easement use of property required for transportation purposes. “Just compensation” as defined by the courts is the payment of “fair market value” for the property rights acquired plus allowable damages to any remaining property. “Fair market value” is defined as the highest price estimated, in terms of money, the property would bring if offered for sale on the open market by a willing seller, with a reasonable time allowed to find a purchaser, buying with the knowledge of all the uses to which it is adapted and for which it is capable of being used.

**Relocation Information** – A booklet entitled “Your Rights and Benefits” detailing the relocation assistance program can be obtained from the Michigan Department of Transportation, Real Estate Support Area, P.O. Box 30050, Lansing, Michigan, 48909 or phone (517) 373-2200.

**Property Acquisition Information** – A booklet entitled “Public Roads & Private Property” detailing the purchase of private property can be obtained from the Michigan Department of Transportation, Real Estate Support Area, P.O. Box 30050, Lansing, Michigan, 48909 or phone (517) 373-2200.

**Conceptual Stage Relocation Plan** – The conceptual stage relocation plan for this project is attached in Appendix D.

## **2.2 LAND USE AND FARMLANDS**

The existing land use in the immediate study area includes a mixture of commercial, light industrial, residential, and recreational property. A wastewater treatment plant is located north of the proposed off ramp, near the trailhead of the recently constructed city of Grandville bike path, which borders the Grand River. Commercial and light industrial uses are evident on the south side of Baldwin Street. Residential units are comprised of apartments north of Baldwin Street and several rental homes on the south side. After the interchange improvements are complete, commercial development will likely occur near the interchange and may replace the existing rental properties south of Baldwin Street. The proposed improvements will not significantly change existing land use patterns and are consistent with city of Grandville and Georgetown Township master plans and existing zoning (See Exhibits 2.1A - Georgetown Future Land Use Map and 2.1B - Grandville Zoning Map).

Georgetown Township parcels impacted by this project are zoned for High Density Residential, Commercial Community Service and Industrial. City of Grandville parcels impacted by this project are zoned for Rural Residential. No impacted parcels are zoned or used for agriculture or forestry purposes. Therefore, no Farmland Conversion Impact Rating form (AD-1006) was submitted to the United States Department of Agriculture/Natural Resource Conservation Service for review under the Federal Farmland Protection Policy Act.

Following the Michigan Department of Agriculture evaluation, it was determined no parcels are currently enrolled in the Farmland and Open Space Preservation Program, Part 361 of Act 451, the Natural Resources and Environmental Protection Act, 1994 as amended (formerly known as PA 116). An on-site review and use of aerial photographs have determined that there will be no active agricultural lands impacted.

## **2.3 INDIRECT AND CUMULATIVE IMPACTS**

Since the construction of the first paved road connecting Grand Rapids with Holland in 1919 to the present, the project area has undergone extensive changes. The first paved road ran through Jenison then joined Baldwin Street after crossing Rush Creek over the newly constructed concrete bridge. Further transportation modifications occurred in 1932, when the realignment of M-21 (originally M-51 and now Chicago Drive) shifted the road south of Jenison completely and abandoned the bridge. Chicago Drive was becoming a main thoroughfare through Georgetown Township and soon gave rise to a concentration of new commercial development. One of the most substantial impacts to the project area occurred with the construction of I-196. The new limited access freeway, planned in the 1960s, effectively severed the Baldwin Street connection between Jenison and Grandville.

The Grandville/Georgetown area has experienced rapid growth during the past several decades. The population of Georgetown Township increased by about 48 percent from 1970-80, 25 percent from 1980-90, and 27 percent between 1990 and 2000. Although not as dramatic, population increases were also apparent for the city of Grandville; growing approximately 15 percent from 1970-80, 26 percent from 1980-90, and 4 percent between 1990 and 2000. Further population and employment growth is expected to continue into the future.

During the past 15 years, MDOT and local agencies have completed various transportation projects to address traffic issues associated with the interchange area and local access to I-196 (Table 2.1). The proposed improvements, along with previous transportation projects, have helped accommodate the ongoing growth in this bedroom community. Recent development trends and future growth projections for Grandville and Georgetown Township indicate that the area will undergo continued growth with or without the proposed project.

Compared to the No Build Alternative, which is not considered a practical alternative, the proposed project will enhance mobility in the local area as well as between Georgetown Township and the Grand Rapids metro area. The project will improve safety and operations at the existing I-196/Chicago Drive (Baldwin Street) interchange as well as improving response times for emergency services. Because motorists will no longer have to use the at-grade CSX railroad crossing, area businesses and residents will encounter fewer travel restrictions after the interchange modifications are complete. A new sidewalk along the north side of Baldwin Street, ending at the wastewater treatment plant service drive, will accommodate pedestrians to the non-motorized trail in Grandville. The proposed improvements will allow for future non-motorized trail construction by the city of Grandville, pending completion of their plans. Access at the I-196 crossing over Buck Creek will allow connectivity between the trailhead parking area and the local city trail system.

The proposed improvements will accommodate future traffic volumes and are not expected to alter general travel patterns in the area after construction is complete. However, residents of the apartment buildings accessing Baldwin Street from the north will encounter increased levels of traffic moving at higher speeds than are currently posted (25 mph). Construction is expected to take two years and no detours are anticipated. There will be short-term impacts during the construction phase, particularly for residents and motorists traveling in the immediate project

area who will likely experience longer travel times. Access to local residences and businesses will be maintained during construction.

The proposed interchange improvements will not adversely affect other projects proposed for the project area (See Table 2.1 – Proposed Projects in the Surrounding Area). In 2007, MDOT will resurface Chicago Drive (Old M-21) in the Jenison and Hudsonville areas from 12<sup>th</sup> Avenue to School Street and from the Hudsonville city limit to 12<sup>th</sup> Avenue. Future MDOT projects adjacent to the area include major rehabilitation of I-196 from Kenowa Avenue to Chicago Drive in 2008. Reconstruction of M-11 (28<sup>th</sup> Street) between US-131 to Division Avenue will occur in 2008. Reconstruction of northbound US-131 from Ann Street to I-96 is planned for 2007 along with resurfacing of US-131 from 28<sup>th</sup> Street to Wealthy in 2009. In addition to various preservation work, the following projects are planned for Georgetown Township under the jurisdiction of the Ottawa County Road Commission. The Commission's future plans for Main Street and Baldwin Street in Jenison will require further study after the MDOT completes the proposed I-196 interchange improvements.

**TABLE 2.1 – PROPOSED PROJECTS IN THE SURROUNDING AREA**

1	<b>Balsam Drive / 28<sup>th</sup> Avenue from north Hudsonville limits to Port Sheldon Street</b> – reconstruct and widen to 5 lanes by 2009
2	<b>Port Sheldon Street from 48<sup>th</sup> Avenue to 40<sup>th</sup> Avenue</b> – reconstruct and widen to 5 lanes by 2009
3	<b>28<sup>th</sup> Avenue from Port Sheldon Street to Rosewood Street</b> – reconstruct and widen to 5 lanes by 28 <sup>th</sup>
4	<b>28<sup>th</sup> Avenue from Rosewood Street to Baldwin Street</b> – reconstruct and widen to 5 lanes by 2009
5	<b>28<sup>th</sup> Avenue from Baldwin Street to Bauer Road</b> – reconstruct and widen to 5 lanes by 2009
6	<b>Cottonwood Drive from Bauer Road to Fillmore Street</b> – reconstruct and widen to 5 lanes by 2025
7	<b>Cottonwood Drive from Baldwin Street to Bauer Road</b> – reconstruct and add center turn lane by 2025

## **2.4 VISUAL CONDITIONS**

### **Landscape Types**

The proposed project area has a combination of residential, light industrial, historic, and natural landscape types. The residential landscape includes private residences, rental homes, and apartment buildings along Baldwin Street. A cluster of light industrial buildings south of Baldwin Street and the wastewater treatment plant north of the project area comprise the light industrial landscape type. Jenison Baptist Temple, located at the west end of the project area, is a National Register-eligible property and focal point of the historic landscape. The historic landscape includes the church as well as the mature trees adjacent to the lot. The primary feature of the natural landscape, situated to the east and west of the wastewater treatment plant, is Rush

Creek and its associated vegetation. Rush Creek drains into the nearby Grand River. The newly constructed city of Grandville bike path begins within the natural landscape south of the treatment plant and runs along the I-196 embankment.

## Impacts

Changes in visual character of the area will affect the view *from the road* for motorists and the view *of the road* for residents, pedestrians, and bike path users. Road widening and tree removals associated with the interchange modification will impact visual resources of the residential and natural landscapes. The removal of mature trees will impact private residences, rental properties, and apartments adjacent to the roadway. The large trees bordering the Jenison Baptist temple will be retained thereby minimizing impacts to the historic landscape (Photograph 1). Impacts to the natural landscape are anticipated as a result of vegetation removal and the construction of a large retaining wall in close proximity to the new bike path near the trailhead. Users of the bike path will have a clear view of the retaining wall on the south side of the path that will rise at a steep angle from the base of the path upward to I-196 (Photograph 2). Improvements to the visual quality of Rush Creek, located within the natural landscape, will be achieved by removing the existing bridge (Photograph 3), and restoring the area to natural conditions. No adverse impacts are anticipated for the light industrial landscape type.



**Photograph 1** - Trees near Jenison Baptist Temple



**Photograph 2** - Location of new retaining wall





**Photograph 3** – Existing bridge over Rush Creek to be removed (foreground)

## **Mitigation**

Tree replacements will be required to mitigate the visual impacts resulting from approximately eighteen tree removals along Baldwin Street. The mature trees next to the Jenison Baptist Temple property will be retained and guardrail may be installed to help protect the building from vehicle collision. MDOT will facilitate a context sensitive solution workshop to involve the community in determining a context sensitive aesthetic treatment for the retaining wall adjacent to the new bike path.

## **2.5 SOCIAL IMPACTS**

The proposed project will not cause any long-term negative impacts on any minority, ethnic, low-income, elderly or handicapped groups, or on area schools, churches, or emergency services. No neighborhoods within the project area will be permanently separated from community facilities or services. However, there will be indirect noise and temporary impacts to the residents who live in single-family and multi-family homes along Baldwin Street.

As previously discussed, there will be no displacements of residences or businesses along Baldwin Street other than the vacant house and garage used by the Georgetown Township Fire Department for training. The residents who live on Baldwin Street are a diversified population (elderly, minority, low-income, and disabled) who rely on automobiles and transit services each day. The proposed project will change the surrounding landscape for the residents and cause an increase in traffic noise levels on Baldwin Street. The proposed project will also cause temporary impacts (noise, dust, access) to the residents, business owners, and emergency service providers during construction.

MDOT has been coordinating with Georgetown Township and the city of Grandville regarding ROW needs, and maintaining access for residents, business owners, transit providers, school buses, and emergency services during construction.

As part of mitigation for this project, MDOT will conduct a context sensitive solution workshop. The purpose of the workshop is to allow residents, business owners, and local officials an opportunity to consider feasible aesthetic solutions for Baldwin Street.

## **2.6 ENVIRONMENTAL JUSTICE**

The purpose of Executive Order 12898 on Federal Actions to Address Environmental Justice in Minority and Low-Income Populations is to identify, address, and avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations. The proposed improvements will not cause disproportionately high and adverse human health or environmental effects on minority and low-income populations.

An analysis of the U.S. Census Data for 2000 and a review of the Michigan State Housing Development Authority Subsidized Housing Directory for Ottawa County, along with a field review of the project area determined the presence of minority and low-income populations within the project area. The minority population in Georgetown Township and the city of Grandville is 3.0 and 5.1 respectively; while 4.5 percent of the residents in both the township and the city are considered low-income per the poverty guidelines established by the U.S. Department of Health and Human services. The minority population and the percentage of residents who are considered low-income in Georgetown Township and the city of Grandville are below the County and State averages. The minority population in Ottawa County and the State of Michigan is 8.5 percent and 19.8 percent respectively, while the percentage of residents who are considered low-income in the county and the state is 5.5 and 10.5 respectively.

The proposed improvements to the I-196/Chicago Drive interchange and widening of Baldwin Street will cause indirect noise and temporary impacts that were discussed in *Section 2.5 Social Impacts*. However, the proposed improvements will provide the residents with a new sidewalk and an opportunity to participate in a context sensitive solution workshop.

MDOT has held several meetings with local stakeholders and city officials to solicit input from potentially affected stakeholders and property owners, including minority and low-income residents. A public hearing will be held after the Environmental Assessment is approved by FHWA, and prior to FHWA issuing a Finding of No Significant Impact.

The proposed project will not cause disproportionately high and adverse effects on minority and low-income populations located in and near the project area at this time. However, a continuing effort will be made to identify disproportionately high and adverse impacts to minority and low-income populations. If additional impacts are identified, every effort will be made to avoid, minimize, or mitigate these impacts.



## 2.7 HISTORIC AND ARCHAEOLOGICAL RESOURCES

### Above-Ground Historic Resources



**Photograph 4** - North (front) facade of the Jenison Baptist Temple

MDOT consulted with the State Historic Preservation Office (SHPO) to determine an Area of Potential Effect (APE) for above-ground historic resources. The APE included an area much larger than Baldwin Street to ensure any potential resources were identified. MDOT conducted a survey of all structures within the APE and focused on buildings and structures (like the bridge over Rush Creek) older than 50 years. The survey evaluated each building using the criteria for listing on the National Register of Historic Places.

According to the National Register criteria, a building or structure must be at least 50 years or older and retain integrity of location, design, setting, materials, workmanship, feeling, and association. Furthermore, at least one of the following additional criteria must be met: A) association with a significant event; B) association with the lives of significant persons; C) embody the distinctive characteristics of a type, period or method of construction, or represent the work of a master; or D) have yielded or may be likely to yield information important in history or prehistory.

The SHPO was provided with information about the anticipated impacts of the project on the Jenison Baptist Temple. The anticipated impacts were based upon the preferred alternative, which has the largest footprint near the Jenison Baptist Temple of the alternatives considered. The SHPO (SHPO letter dated August 20, 2004 in Appendix A) and FHWA agreed with

MDOT's determination that the preferred alternative will not have an adverse affect upon the Jenison Baptist Temple. During a May 2005 meeting with MDOT, a representative from the Jenison Baptist Temple indicated the congregation would prefer to leave the sidewalk in its current location. This is a slight change from the sidewalk location listed in the August 2004 SHPO letter that does not alter the overall impact of the project. Therefore, the preferred alternative will not have an adverse affect upon the Jenison Baptist Temple.

### **Archaeological Resources**

During initial review of this undertaking, the potential for encountering both historic and prehistoric archaeological resources was determined to be high. Therefore, a land use history was developed by MDOT and subsequent archaeological survey, deep testing, and site evaluations were performed by a cultural resources consultant. As a result of these studies, three new sites were located (20OT337, 20KT295, and 20KT296) and assessed for their potential eligibility for inclusion in the National Register of Historic Places (NHRP). Upon review of these studies' findings, and subsequent review and consultation with the State Historic Preservation Office (SHPO letter dated August 20, 2004 in Appendix A), it was determined that none of these sites was eligible for the NHRP and "...that no historic properties will be affected within the project's area of potential effect" for archaeological resources.

### **Native American Tribal Consultation**

MDOT issued an early coordination letter February 20, 2004 to the Grand River Band of Ottawa Indians seeking input and to request identification of any areas of concern regarding the scope of work for the undertaking (See Appendix A). Another letter was issued June 3, 2004 notifying the Tribes of planned work and seeking any comments. There were no responses from any Tribe identifying issues related to the undertaking and no request(s) to engage in government-to-government Consultation were received. Since then, neither archaeological nor historic above ground surveys have revealed any information necessitating or requiring Agency/State/Tribal governmental consultations. Therefore, as pertains to this undertaking and the Environmental Assessment, the federal and state requirements for Native American Consultation have been fully executed and are complete.

## **2.8 ENDANGERED AND THREATENED SPECIES**

Endangered and threatened species are officially protected by the State of Michigan's Natural Resources and Environmental Protection Act, Act 451 of the Public Acts of 1994, Part 365; and the Federal Endangered Species Act of 1973, as amended. An endangered species (E) under the Acts is defined as being in danger of extinction throughout all or a significant portion of its range. A threatened species (T) under the Acts is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Special concern species (SC) are not afforded legal protection under the Acts, but are of concern because of declining or relict populations within Michigan or are species for which more information is needed.

The Michigan Natural Features Inventory (MNFI) and the U.S. Fish and Wildlife Service (USFWS) were consulted in order to determine the potential for listed species within the project area. No state listed plant or animal species were cited. Likewise, the USFWS (letter dated March 25, 2005 in Appendix A) indicates that none of the federally listed species are present within the project area.

Surveys of the project area have been conducted in an effort to rule out the occurrence of protected species within the project limits. The field surveys were conducted in 2003 and 2004. No state or federally listed T/E/SC plants or animals were located within the proposed project area in the course of the surveys.

Additional reviews of the MNFI database will be made at future points during this project in order to verify that no T/E/SC species have been found. If any federal or state listed T/E/SC plants or animal species that will be affected by construction activities are located, then consultation with the MDNR and the USFWS will be initiated immediately. This may also require preparing a biological assessment for the USFWS and receiving an Endangered Species Permit from the MDNR. The biological assessment and permit could contain measures to protect plants and animals. These may require a variety of protection measures including: protective fencing, transplanting, salvage, relocation and other mitigation measures.

## **2.9 COASTAL RESOURCES**

The State of Michigan regulates sensitive areas along the Great Lakes shore under the Coastal Zone Management program. This program is implemented for consistency with various resource protection laws including Part 353 (Sand Dunes Protection and Management); Part 323 (Shorelands Protection and Management) of P.A. 451 (Natural Resources and Environmental Protection), 1994; and P.A. 97-348, 1982, as amended (Coastal Barrier Resources). This project does not fall within the Coastal Zone Boundary or have any impact, direct or indirect, to Critical Dunes, Coastal Barrier Resources or High Risk Erosion Areas.

## **2.10 STREAM CROSSINGS**

### **Stream Crossing Description**

Two watercourses, Rush Creek and Buck Creek, fall within the project limits. Both creeks outlet into the Grand River just outside of the project area and most of this project area falls within the 100-year floodplain of the Grand River. Rush Creek has a drainage area of approximately 59 square miles while Buck Creek has a drainage area of approximately 48 square miles.

Rush Creek in the project area varies in width from 50 to 60 feet with a base flow depth of two to three foot (4 to 6 foot depth at ordinary high water flow). Rush Creek is crossed by three structures in the project area. The existing CSX railroad structure has a single span of 59.3 feet and overall width of 18 feet. The existing wastewater treatment plant structure (two 17.8 foot spans and an overall width of 34 feet) will be replaced by a structure with a clear span of 72 feet and an overall width of 43 feet including bridge barrier and railing. The existing old M-21/Baldwin Street bridge has a clear span of 46.4 feet and an overall width of 80 feet. The proposed Baldwin Street ramp to I-196 structure has a clear span of 72 feet and an overall width of 64 feet and is skewed 22 degrees with respect to Rush Creek.

Buck Creek in the project area is approximately 50 feet wide with a base flow depth of three feet (4 to 5 foot at ordinary high water flow). Buck Creek is crossed by the two I-196 structures in the project area. The existing I-196 westbound structure consists of three 29 foot spans with an overall width of 44.4 feet. This will be replaced by a 120 foot single span structure, with a width of 64.5 feet. The existing I-196 eastbound structure (three 35.8 foot spans with an overall width of 42.9 feet) will be replaced by a larger structure (120 foot single span with an overall width of 64.5 feet). The proposed ramp to eastbound I-196 structure will have a new structure with a single span of 120 foot and overall width of 34 feet.

### **Stream Crossing Impacts**

Both watercourses are located in the Grand River floodplain which is mostly forested. Removal of trees in the vicinity of the proposed structures would be required. Each new structure would span the base stream width with a narrow buffer left adjacent to both sides of the stream. Some disturbance of the creek bottom will occur when several existing piers located in the creek are removed. Additional disturbance will occur along the creek banks to accommodate the riprap necessary to prevent scouring of the new bridge abutments. The new I-196 structures over Buck Creek will accommodate an area for a future bike path to be considered by the city of Grandville.

### **Stream Crossing Mitigation**

Tree removal and disturbance in the floodplain will be minimized. Strict soil erosion and sedimentation controls including construction staging will be set up for the replacement structures over both Rush and Buck Creeks. Removal of the existing piers in the water will be done inside cofferdams to isolate the construction activity from the flowing watercourse. Treatment of water from dewatering operations will occur within upland areas only and will not

outlet directly into Rush or Buck Creeks. Stream bed protection stone will be placed in all disturbed creek bottom locations.

## **2.11 WATER QUALITY**

### **Watershed Description**

The project area is within the lower Grand River watershed. The lower Grand River watershed includes all of the sub-watersheds in the Grand River watershed west of and including the Thornapple and Flat River watersheds. It is approximately 3,020 square miles and includes ten counties. Land use in the watershed is 53% agricultural and the Environmental Protection Agency (EPA) has categorized the riparian habitat of the lower Grand River as 25 – 50% forested. Urban land use within the watershed is concentrated in the major metropolitan area of Grand Rapids.

### **Watershed Issues**

The lower Grand River watershed includes one of the larger population and industrial centers in the State of Michigan; therefore there have been significant manmade activities that have adversely impacted the watershed. Historically, the Grand Rapids area was known for large-scale metal finishing and plating industries that contributed significant amounts of heavy metals to the environment. Contaminated river bottom sediment has been identified throughout most of the main body of the Grand River.

Pursuant to the requirements of Section 303(d) of the Federal Clean Water Act, MDEQ has listed sixteen (16) water bodies within the lower Grand River watershed as non-attaining for water quality. Of these 16 water bodies, Buck Creek and the Grand River are within the project work area. Both Buck Creek and the Grand River have been listed for fecal coliform values that exceed total body contact criteria. Primary sources of fecal coliform contamination include sanitary sewer overflows during heavy rain events and failing septic systems. Rush Creek is also within the project work area, but is not listed as non-attaining by MDEQ.

### **Project Impacts**

The project will create a new impervious area which will result in an increased rate of run off and potentially increase pollutant contributions from sedimentation and other pollutants associated with roadways. When feasible, drainage from the road and approaches will be routed overland, and thus be filtered by vegetation prior to being discharged to a regulated surface water body. Due to the expected length of overland flow, significant filtration is expected to occur and adverse water quality impacts from post construction road run off are not anticipated.

The project is not expected to contribute any pollutants of concern to non-attaining water bodies since fecal coliforms are generally found in low concentrations in road runoff. Additionally, the project is not expected to involve work within the channel of the Grand River, so contaminated sediments will not have to be characterized or mitigated.

Recommended mitigation for post construction water quality impacts includes maximizing use

of vegetated swales for drainage conveyance; minimizing the direct discharge of bridge runoff and addressing all disturbed groundwater wells and sanitary sewer lines in accordance with local ordinances. Beyond all these items, all other Michigan Department of Community Health (MDCH), local health department and MDEQ requirements designed to protect water quality will be met.

### **Soil Erosion and Sedimentation Control During Construction**

Accelerated erosion caused by construction will be controlled before it enters a water body or leaves the right-of-way by the placement of temporary or permanent erosion and sedimentation control measures. MDOT has developed a series of standard erosion control items to be included on design plans to prevent erosion and sedimentation. The design plans will describe the erosion controls and their locations.

MDOT has on file with MDEQ approved operating erosion and sedimentation control program which ensures compliance with Part 91, Soil Erosion and Sedimentation Control of Act 451, as amended. The MDOT has been designated an “Authorized Public Agency” by the MDEQ and is self-regulated in its efforts to comply with Part 91. However, the MDEQ may inspect and enforce soil erosion and sedimentation control practices during construction to ensure that the MDOT and the contractor are in compliance with Part 91 and the acceptable erosion and sedimentation control program.

The following is a partial listing of general soil erosion and sedimentation control measures to be carried out in accordance with permit requirements.

- No work will be done in Buck Creek or Rush Creek during periods of seasonally high-water, except as necessary to prevent erosion.
- Road fill side slopes, ditches, and other raw areas draining directly into watercourses will be protected with riprap (up to three feet above the ordinary high water mark), sod, seed and mulch, or other measures, as necessary to prevent erosion.
- Areas disturbed by construction activities will be stabilized and vegetated within 5 days after final grading has been completed. Where it is not possible to permanently stabilize a disturbed area, appropriate temporary erosion and sedimentation controls will be implemented. All temporary controls will be maintained until permanent soil erosion and sedimentation controls are in place and functional.
- The contractor shall have the capability of performing seeding and mulching at locations within 150 feet of any streams or drains within 24 hours of being directed to perform such work by the project engineer.
- Special attention will be given to protecting the natural vegetative growth outside the project's slope stake line from removal or siltation. Natural vegetation, in conjunction with other sedimentation controls, provides filtration of runoff not carried in established ditches.
- The contractor is responsible for preventing the tracking of material onto local roads. If material is tracked onto roads, it shall be removed.

## **2.12 FISHERIES AND WILDLIFE**

### **Fisheries**

The Grand River and Buck Creek support warm water fisheries habitat. The current fisheries management plan for the Grand River in Kent County includes continued Walleye (*Stizostedion vitreum*) stocking. Walleye are generally considered a ‘cool water’ species preferring larger, deeper streams and large turbid lakes and impoundments.

Potential adverse impacts to Walleye and other fish species from this project include temporary increased sediment deposition/turbidity. Potential for these impacts during construction will be mitigated by implementation of best management practices described in *Section 2.11 Water Quality*. Long-term adverse impacts from storm water runoff are not expected to occur due to the large expanse of well vegetated floodplain that will remain intact and serve as a buffer between impervious surface area and the water bodies. MDNR fisheries staff have recommended that no work occur in the Rush and Buck Creek channels from March 1 to April 30 and September 15 to November 30 to protect fish spawning for salmon and steelhead.

### **Wildlife**

Wildlife surveys and casual observations of wildlife use within the project limits were conducted from July 2003 to July 2004. A total of 58 vertebrate species comprised of five mammal and 53 birds were identified within the project limits. Nesting activity was confirmed for Mourning Dove (*Zenaida macroura*), American Robin (*Turdus migratorius*), and Eastern Phoebe (*Sayornis phoebe*) by observation of active nests within the project limits. Nesting activity by the European Starling (*Sturnus vulgaris*) was observed at the wastewater treatment plant. Burrows of Woodchuck (*Marmota monax*) were evident along Rush Creek on upland near the eastbound lane of I-196, though no animals were observed. All vertebrate species observed represent common, widely distributed species within the Great Lakes region and do not represent species with limited distributions within the state or Kent and Ottawa counties. The project will not significantly impact populations of the species found within the project boundaries.

## **2.13 FLOODPLAINS AND HYDRAULICS**

A preliminary hydraulics analysis was performed by MDOT using the HEC-RAS model to determine potential impacts to floodplain water elevations (See the Preliminary Hydraulic Analysis for Buck and Rush Creek, available upon request). The project crosses both Rush Creek and Buck Creek just above their confluence with the Grand River.

Three design options were evaluated for Rush Creek that involve the removal of the existing Old Chicago Drive bridge and service road that services the wastewater treatment plant. These facilities will be replaced by the construction of a new bridge and service drive to access the plant and the bike path. Baldwin Street will also be extended with a Rush Creek crossing connecting to the new eastbound-on and westbound-off ramps to I-196. Three options were evaluated for the new Rush Creek crossings for the service road and extended Baldwin Street. These include designs using from one to three spans to be placed slightly down-stream of the existing structures and deeper into the Grand River floodplain. All of the options reviewed



resulted in a slight increase in the flood crest elevation. This increase will not cause harmful interference and does not extend outside MDOT right-of-way. If an increase in the flood crest elevation is determined to extend outside MDOT right-of-way during the design phase, MDOT will notify and receive written approval from affected property owners.

The preferred alternative (single span bridges over Rush Creek) will result in an increase in pressure flow at the existing CSX railroad bridge upstream of the proposed span of 0.19 feet (from 600.90 to 601.09 feet). The dismissed 2-span option was more costly and did not provide improved hydraulic conditions. The 3-span option was dismissed because of substantially higher cost and it would require a pier in the creek itself on both the service drive and Baldwin Street structures.

One design option was analyzed for Buck Creek, which consisted of the removal of the existing structures for eastbound and westbound I-196, and construction of a new single-span structure with modification of the existing channel, and removal of all existing piers in the creek and spill-through abutments. Construction of an additional single-span structure slightly upstream of the eastbound I-196 structure will serve as the entrance ramp to eastbound I-196 from the new Baldwin Street eastbound on-ramp. This analysis included the construction of the bike path underneath the existing eastbound and westbound I-196 bridges and the new ramp. Analysis of the existing condition for eastbound and westbound I-196 shows no pressure or weir flow for up to a 100-year storm event. Analysis of the proposed condition indicates a maximum 0.29 foot decrease in the flood crest elevation upstream of the roadway as a result of the removal of the piers for the 100-year event. A flood crest elevation increase of 0.17 feet was detected within the highway median due to the construction of the bike path. There is no increase of flood crest elevation beyond MDOT ROW at this location based upon modeling of the proposed alternative.

Floodplain mitigation for this project consists of a cut for fill in the Grand River watershed. The preferred alternative will require the filling of 23,000 cubic yards within the floodplain. A cut section of 22,500 cubic yards will take place on site. If in the event there is not sufficient area on site to conduct the additional 500 cubic yards of cut then an off site location will be utilized. In all likelihood the proposed "Fish Farm" wetland mitigation site will be used for the wetland mitigation and can also be utilized for any additional cut that needs to take place.

A more definitive hydraulics analysis will be conducted during the final stages of design to insure that the project will meet state and federal requirements for passing the 100-year flood.

Review of the project area for a distance of about 500 feet upstream and downstream of the confluence of Buck and Rush Creeks with the Grand River was undertaken to identify natural and beneficial floodplain values. Alteration of the riparian zone has not impacted natural floodplain functions and values in a significant manner. The functions and values evaluated include: fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge. Past construction within the floodplain consists of concrete pipe to convey wastewater to the treatment plant that is placed below grade, and more recently, the construction of a non-motorized recreational path and associated bridges over the two creeks. The primary function of the floodplain within the project area consists of provision of habitat for

fish and wildlife and moderation of flood flows. The maintenance of water quality via sediment trapping, plus the provision of open space and natural beauty along the forested riparian corridor are also important considerations.

Floodplain mitigation for unavoidable impacts may be required through Part 31 (Floodplain Protection) of Act 451, Natural Resources and Environmental Protection Act. In Michigan, federal floodplain regulatory authority has been delegated to the State, and the extent to which floodplain mitigation is required for a project is dictated through the floodplain permit process administered by MDEQ. The USACE retains authority over navigable rivers, including the Great Lakes and adjacent wetlands. A permit will be required from MDEQ for impacts to floodplains associated with the Preferred Alternative for the I-196 Chicago Drive (Baldwin Street) project.

The total volume of fill within the floodplain for both the new service road and I-196 ramps is estimated at 23,000 cubic yards (CYD). To maximize our floodplain mitigation onsite, the Old Chicago Drive will be terminated with a cul-de-sac as shown in Exhibit 1.4A. The existing Old Chicago Drive bridge over Rush Creek, associated roadway and driveway to the waste water treatment facility will be removed. This area will be restored back to the natural floodplain elevation in order to serve as on-site floodplain mitigation. This should provide an estimated 22,500 CYD of compensatory cut within the floodplain adjacent to the project location. The remaining 500 CYD of compensatory cut will be completed upstream of the project area at the wetland mitigation site (Jacks Fish Farm) adjacent to the Grand River.

The references that are cited in this section include:

Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. USFWS Technical Report OBS-79/31. 103 pages.

MDEQ. 2003. Technical Guidance for Wetland Mitigation. 9 pages.

USACOE. 1995. The Highway Methodology Workbook. USACOE Technical Report NEDEP-360-1-30a. 32 pages.

## **2.14 WETLANDS**

### **Wetland Mitigation Requirements**

Wetland impacts for the project will total 1.34 acres distributed within the floodplain areas of the Grand River, Rush Creek, and Buck Creek. Impacts to the palustrine forested (PFO) wetland represents 1.26 acres (94% of the project total), with 0.08 acres (6%) of palustrine emergent (PEM) wetland associated with Rush Creek representing the remaining amount (wetland classification based on Cowardin et al. 1979). The impacted forested wetland consists of a closed canopy system comprised of mature Silver Maples (*Acer saccharinum*) and Eastern Cottonwoods (*Populus deltoides*) with an understory of American Elm (*Ulmus americana*) and Box Elder (*Acer negundo*) saplings. Poison Ivy (*Toxicodendron radicans*) is the dominant herbaceous species. The emergent wetland within the riparian zone of Rush Creek has an herbaceous cover comprised of Reed Canary Grass (*Phalaris arundinacea*) with a few scattered

forbs and a fringe of scattered dogwoods (*Cornus* sp.) and willows (*Salix* sp.). A wetland functions and values assessment using the Highway Methodology (United States Army Corps of Engineers (USACE 1995) was conducted to document the primary functions of the wetlands impacted by the project. The primary functions of the wetlands that would be impacted by the Preferred Alternative are flood flow storage, wildlife habitat, and sediment and toxicant retention.

Wetland mitigation for unavoidable impacts is required through Part 303 (Wetland Protection) of Act 451, Natural Resources and Environmental Protection Act, Section 404 of the Federal Clean Water Act and Federal Executive Order 11990. In Michigan, federal wetland regulatory authority has been delegated to the State, and the extent to which wetland mitigation is required for a project is dictated through the wetland permit process administered by the Michigan Department of Environmental Quality (MDEQ). The USACE retains authority over navigable rivers, including the Great Lakes and adjacent wetlands. On this project a permit will be required from both the MDEQ and the USACE for impacts to wetlands associated with the Preferred Alternative for the I-196 at Chicago Drive (Baldwin Street) project. Currently, the MDEQ requires wetland impacts to be mitigated at an acreage ratio of 2 to 1 for forested wetlands and 1.5 to 1 for emergent wetlands (MDEQ 2003). Based on these ratios the I-196 at Chicago Drive (Baldwin Street) project will require 2.52 acres of forested and 0.12 acres of emergent wetland mitigation for a total mitigation of 2.64 acres.

**Wetland Mitigation** Wetland mitigation for this project will consist of a combination of on-site and off-site mitigation. On-site mitigation will be completed in conjunction with compensating cut for fill activities where feasible. However, given the sensitive nature of flooding in the vicinity of the project, preference will be given to meeting compensating cut requirements on-site to the maximum extent possible prior to proceeding with on site wetland mitigation. Off-site mitigation will occur at a site commonly known as the Jack's Fish Farm wetland mitigation site. Although several potential wetland mitigation sites were field reviewed to determine feasibility for off-site wetland mitigation for project, the Fish Farm site was selected because of its location within the Grand River floodplain and its high probability of success due to a high groundwater table and adjacent wetland communities. Given the location of this site within the floodplain of the Grand River it was also determined that this site would likely replicate most of the functions provided by the impacted wetlands. The Fish Farm property is discussed below in more detail.

### **Fish Farm Wetland Mitigation Site**

This 30 acre site is located within a portion of the floodplain of the Grand River in Robinson Township of Ottawa County (T7N, R15W) (See Exhibit 2.3 – Fish Farm Wetland Mitigation Site). The site was historically used as a sand and gravel mining operation and more recently as a fish rearing farm. MDOT purchased the property in July of 2002 to be used as future mitigation within the Grand River Watershed. In the spring of 2004, MDOT performed minor grading activities to fill in the fish ponds and construct a fence along the southern border of the property in order to alleviate liability issues. These grading activities resulted in the creation of approximately 1 acre of wetland mitigation. It is anticipated that an additional 6 acres can be created at this location for a total of 7 acres. The 2.64 acres of required wetland mitigation for this project will be created at this location. The remaining 4.36 acres of mitigation wetlands at

this location will be used for future transportation project impacts within the watershed. However, in addition to wetland creation, MDOT will be seeking wetland preservation credit on the remaining 23 acres of property. A conservation easement will be placed on all 30 acres to allow for permanent protection of the wetland resources.

Due to the location of the site within the floodplain of the Grand River, this site has a high probability of replicating the functions and values of the impacted wetlands. The site is predicted to provide similar flood flow storage and sediment/toxicant retention functions as the impacted wetlands. The presence of existing wetlands adjacent to the site also increases its potential wildlife habitat value.

A representative of the MDEQ has visited this site and given MDOT preliminary approval to use this site as a banking site. Conceptual design plans will be developed in 2005 and MDOT plans on constructing the site in 2006. When constructed, credits from this site could be used to mitigate for wetland impacts associated with the Preferred Alternative of the I-196 at Chicago Drive (Baldwin Street) project.

### **Wetland Mitigation and Monitoring Plan**

MDOT will commit to establishing a protection and management plan in the form of a deed restriction or conservation easement for the wetland mitigation areas. As required under Section 303, of the P.A. 451 of 1994, MDOT will prepare and submit a comprehensive mitigation and monitoring plan to document the development of the mitigation sites. The mitigation and monitoring plan will follow the technical guidance provided by MDEQ and will specifically address mitigation goals and objectives, performance standards, monitoring procedures and long-term protection (i.e. conservation easement) of the mitigation site. Minimally, the design will incorporate the following;

- Sites will be designed with buffers,
- Sites will be completed before construction, where feasible,
- No net loss of forested wetlands, and;
- Forested wetlands will provide wildlife habitat.

This plan will be submitted to MDEQ during the permitting process for compliance with current standards.

### **2.15 NOISE ANALYSIS**

A traffic noise analysis was performed along the I-196/Chicago Drive (Baldwin Street) project area following procedures established in 23 CFR Part 772, FHWA's *Highway Traffic Noise Analysis and Abatement Policy* (June 1995), and MDOT's *Procedures and Rules for Implementation of State Transportation Commission Policy 10136 – Noise Abatement* (2003). FHWA's computer Traffic Noise Model 2.5 was used to determine existing and predict future noise levels of the Preferred Alternative. The traffic noise analysis with background information is included in a Technical Report available upon request.

MDOT policy considers there to be noise impacts if the traffic noise approaches 1 dBA of the FHWA's Noise Abatement Criteria (NAC) standard which for Category B (residential areas) which is 67 dBA, or if there is an increase of 10 dBA over the existing sound levels. MDOT considers 66dBA to be a noise impact. Those impacted receptors must be considered for noise abatement (See Exhibit 2.4 - Baldwin Street Traffic Noise Receiver Locations).

The traffic noise analysis shows that properties close to the intersection Main Street and Baldwin Street for the Preferred Alternative will exceed the 67 dBA level by 0.5 to 2.0 dBA. All the modeled receptor sites in the project area exceed the 10 dBA difference for the Preferred Alternative over existing conditions.

MDOT policy requires all impacted properties to be examined for possible noise abatement. The typical MDOT method for noise abatement is the construction of a noise barrier or wall. The noise wall must meet the standards of feasibility and reasonability before construction would be considered. Feasibility is an engineering requirement looking at construction, safety and maintenance issues and the capability to obtain the required 5 dBA reduction in traffic noise impacts. Reasonability focuses on the economic aspects such as cost effectiveness in constructing the wall and financial agreements with local jurisdictions with regard to maintenance, land use policy, and funding participation.

There are many driveways that access Baldwin Street from the residences on both sides of the road and apartments on the north side. The presence of many driveways along Baldwin Street would produce breaks in the noise wall and make the wall unable to attain the required 5 dBA reduction therefore, no noise walls are proposed. Landscaping or fencing may help to mitigate the visual effect of increased traffic, even though it has very little effect on traffic noise reduction.

## **2.16 AIR QUALITY**

The I-196/Chicago Drive (Baldwin Street) Interchange Modification is located in Ottawa and Kent County which has been designated by the U. S. Environmental Protection Agency (EPA) as in non-attainment under the 8-hour ozone standard. The project must be proven to conform to the National Ambient Air Quality Standards for 8-hour ozone of .08 ppm. The Grand Valley Metropolitan Council is the Metropolitan Planning Organization (MPO) for the Grand Rapids area. The regional air quality conformity analysis was completed by the Grand Valley Metropolitan Council in compliance with 40 CFR 51 and 93. The project is included in the 2030 MPO Long Range Transportation Plan. The design phase is included in the MPO 2006-2008 Transportation Improvement Program which was found to conform to the State Implementation Plan for Air Quality by FHWA and FTA on September 30, 2005. Subsequent phases will be included in the MPO Transportation Improvement Program upon approval of the Environmental Assessment.

Carbon monoxide (CO) is a local health concern because high localized CO levels tend to occur near congested intersections where average vehicle speeds are low and traffic density high and it dissipates quickly over a distance. A CO microscale or "hot spot" analysis is typically done at intersections where congestion from increased capacity and extended queuing occurs. The

existing, no-build, and preferred alternatives are typically included in the CO hot-spot analysis. However, CO hot-spot analysis was not done for the existing or no-build configurations because there is no signalized intersection for either. The traffic is free flowing between Main Street and west Baldwin Street allowing for a mixing of the air which mitigates any pollutant impacts. The Preferred Alternative is an expanded signalized intersection close to a residential area where there may be pedestrians. Therefore, a CO hot-spot analysis on the Preferred Alternative was completed. The background CO concentration (existing CO concentration in the area) is included as a factor in the analysis. The hot-spot analysis can be reviewed in the Air Quality Technical Report (Available upon request). The results of the hot spot analysis with the background CO illustrates that there are no violations of the CO NAAQS predicted at the intersection.

## **2.17 CONTAMINATED SITES**

### **Baldwin Street Contaminated Sites**

A Preliminary Site Investigation (PSI) was performed (see Preliminary Site Investigation Technical Report, available upon request) near the I-196 and Chicago Drive area, Grandville, Michigan. The PSI was conducted to determine if any known or potential sites of environmental contamination exist that could affect the project's design, cost, or schedule. The PSI covered existing right-of-way (ROW), proposed fee ROW, proposed grading permits, and proposed easements. The PSI process involves an office review of information, a site investigation, and a written report of the findings. This information is contained within the technical report and is available upon request.

Fifteen soil borings were taken to identify contamination. Soil and groundwater samples were collected and analyzed for Polynuclear Aromatic Hydrocarbons (PNA's), Pesticides and Michigan 10 Metals. Concentrations of each compound tested for were compared to the State of Michigan Part 201 Generic Cleanup Criteria and Screening Levels as established by PA451 Michigan Natural Resources and Environmental Protection Act, 1994, as amended.

The results revealed that there were elevated levels of various contaminants above the MDEQ's generic *residential* cleanup criteria for the groundwater surface interface and direct contact exposure pathways. In the Buck Creek Area Fluoranthene, Chromium, Lead and Selenium were found to be above the generic residential cleanup criteria for the groundwater-surface water interface protection criteria. Benzo(a)pyrene, Arsenic and Lead were found to be above the residential direct contact criteria. In the Rush Creek area Fluoranthene, Phenanthrene, Lead and Selenium were in excess of the residential criteria for the groundwater-surface water interface protection criteria. Benzo(a)pyrene and Arsenic were found to be above the residential direct contact criteria.

None of the PNA's, pesticides or metals was found to be above the Michigan Department of Environmental Quality's (MDEQ's) generic *industrial* criteria. Because of the short duration of exposure to contaminated soil by archeologists and construction workers, the concentrations of contaminants were compared to the MDEQ's generic industrial cleanup criteria to determine if there would be negative impacts. No response activities are necessary to protect those workers

involved in the archeological excavation or the construction activities since all levels of contaminants were below the industrial criteria.

Barium was detected in groundwater at concentrations well below the MDEQ's generic *residential* cleanup. No other PNA's, pesticides or the Michigan 10 Metals were found in the groundwater samples. No known risks are associated with the groundwater.

### **Contaminated Site Mitigation**

Contaminated media (soil and groundwater) will be appropriately handled. Specific provisions will be made for the following.

- Excavated soil that is contaminated will be disposed of in accordance with applicable state and federal regulations.
- Risks associated with stockpiled contaminated soil will be properly controlled either by covering the stockpiled soil with plastic or storing it in covered dumpsters.
- Storm sewers and creeks will be protected by appropriate best management practices to prevent discharges of sediment.
- Areas of contamination should be noted in plans and marked with a shaded area. Sub-surface utilities will need to be evaluated so that deep excavation for utilities does not impact contamination or create preferential pathways encouraging the migration of contaminated groundwater towards sensitive environmental receptors.
- Groundwater monitoring wells have been identified and will be abandoned in accordance with Public Health Act (PA 368) requirements prior to the start of construction.

## **2.18 CONSIDERATIONS RELATING TO PEDESTRIANS/NON-MOTORIZED ACCESS**

The existing sidewalk along the south side of Baldwin Street from the intersection of Baldwin Street and Main Street to River Street is 5 feet wide. There are currently no sidewalks on the north side of Baldwin Street. As part of mitigation, MDOT will replace the existing sidewalks on the south side of Baldwin Street and add new 5 foot sidewalks to the north side of Baldwin Street, from the existing sidewalk to the new service drive intersection with Baldwin Street. The new sidewalks will be designed to accommodate people with disabilities and will be in compliance with the 1992 Americans with Disabilities Act (ADA). The current city of Grandville trailhead parking area will be replaced and enhanced with construction of the new service drive into the waste water treatment plant.

Provisions will be made to accommodate a future trail under I-196 at Buck Creek, with the replacement of the two existing mainline bridges and the new ramp bridge over the creek. Construction of a trail under I-196 and connections to other existing and planned local trail facilities will be a local responsibility, pending completion of local trail plans.



## **2.19 MAINTAINING TRAFFIC**

MDOT will develop a plan to maintain traffic during the construction phase of this project. A long-term detour will not be required for this project. However, traffic on Baldwin Street may need to be detoured for one month. If a short term detour is required, MDOT will coordinate with local officials, the Ottawa County Road Commission, emergency services and transit providers. Signs will be used to inform motorists of the detour. Disruption of traffic in the construction area will be minimized to the greatest extent possible. Bus service for area residents and access to local businesses and residences will be maintained during construction.

## **2.20 MEASURES TO MINIMIZE IMPACTS DURING CONSTRUCTION**

The goal of mitigation measures is to preserve, to the greatest extent possible, existing neighborhoods, land use, and resources, while improving transportation. Although some adverse impacts are unavoidable, MDOT through the project development, design, environmental, and construction processes, takes precautions to protect as many social and environmental systems as possible. Specific project mitigation items can be found in the Project Mitigation Summary “Green Sheet” located at the end of this section.

Construction activities which include the general mitigation measures listed below are those contained in the 2003 Michigan Standard Specifications for Construction. These measures include:

1. The contractor shall locate all active underground utilities prior to starting work, and shall conduct his operations in such a manner as to ensure that those utilities not requiring relocation will not be disturbed. Relocated utilities may be temporarily interrupted for short time periods.
2. All regulations of the MDEQ governing disposal of solid wastes must be complied with. When surplus or unsuitable material is to be disposed of outside the right-of-way, the contractor shall obtain and file with MDOT written permission from the owner of the property on which the material is to be placed. No surplus or unsuitable material is to be permanently disposed of in any public or private wetland area, watercourse, or floodplain area without prior approval (and permit) by the appropriate resource agencies and the Federal Highway Administration.
3. Construction noise will be minimized by measures such as requiring construction equipment to have mufflers, that portable compressors meet federal noise-level standards for that equipment, and that all portable equipment be placed away from or shielded from sensitive noise receptors if at all possible. All local noise ordinances will be adhered to unless otherwise granted exception by the responsible municipality.

4. To document damage done during construction, basement surveys will be offered in areas where vibration impacts could occur. Structures within 200 feet of construction operations such as bridge/pavement removal or piling/steel sheeting installation will be identified and reviewed during final design. Vibration impacts are not anticipated at this time.
5. If nests of migratory birds are present under the bridges, the provisions of the Migratory Bird Treaty regarding nest removal will be followed.
6. The contractor must comply with all federal, state, and local laws and regulations governing the control of air pollution. During the construction of the project, the contractor will be responsible for adequate dust-control measures so as not to cause detriment to the safety, health, welfare, or comfort of any person, or cause damage to any property, residence or business.
7. All portable bituminous and concrete plants and crushers must meet the requirements for the rules of Part 55 of Act 451, Natural Resource and Environmental Protection. Any portable bituminous or concrete plant and crusher must meet the minimum 250 foot setback requirement from any residential, commercial, or public assembly property and the contractor may be required to apply for a permit-to-install or a general permit from the MDEQ. The permit process including any public comment period, if required, may take up to six months.

Design plans will be reviewed by MDOT prior to contract letting in order to incorporate any additional social, economic, or environmental protection items. The construction site will be reviewed to ensure that the mitigation measures proposed are carried out, and to determine if

additional protection is required. More mitigation measures may be developed if additional impacts are identified. Specific mitigation items will be included on the design plans and permit applications.

**Project Mitigation Summary “Green Sheet”**  
**For the Preferred Alternative**

**December 5, 2005**

**Environmental Assessment**  
**Programmatic Section 4(f) Evaluation**

Proposed Interchange Improvements at I-196  
at Chicago Drive (Baldwin Street)  
in Georgetown Charter Township and the City of Grandville  
Ottawa and Kent Counties, Michigan

**This project mitigation summary “Green Sheet” contains the project specific mitigation measures being considered at this time. An updated “Green Sheet” will be prepared and included in the Finding of No Significant Impact (FONSI) for this project. These mitigation items and commitments may be modified during the final design, right-of-way acquisition or construction phases of this project.**

**I. Social and Economic Environment**

*A. Visual Resources* - Tree replacements will be offered to residents along Baldwin Street to mitigate for tree removals. MDOT will facilitate a context sensitive solution workshop to involve the community in determining the aesthetic treatment for proposed retaining walls adjacent to the new bike path.

*B. Maintaining Traffic* - A Motorist Information Plan (website and temporary electronic message signs) will be developed and implemented during construction to identify lane closures and alternate routes. Through traffic on Baldwin Street may need to be detoured for up to one month. Coordination with local officials will occur to facilitate emergency service and school bus routes. Access to residences and businesses within the project area will be maintained during construction

*C. Recreation* – The ROW needed for the Grandville Trail parking area will be kept to a minimum. The construction area will be fenced and signed. The parking spaces and parking area impacted will be replaced. Access will be maintained to the Grandville Trail and parking area at all times during construction. The parking of vehicles or storage of equipment and materials on park property is prohibited. The recreational property will be restored to its current condition or better upon completion of construction activities.

## **II. Natural Environment**

A. *Stream Crossing* - Strict soil erosion and sedimentation controls including construction staging will be set up for the replacement structures over both Rush and Buck Creeks. Stream bed protection stone will be placed in all disturbed creek bottom areas.

B. *Wetlands* - Approximately 1.26 acres of palustrine forested and 0.08 acres of palustrine emergent wetlands will be impacted by construction of the Preferred Alternative. Using the 2 to 1 mitigation ratio for forested and 1.5 to 1 ratio for emergent, this project will require a total mitigation of 2.64 acres (2.52 acres of forested wetland and 0.12 acres of emergent). The mitigation site selected is the fish farm site adjacent to the floodplain on the south side of the Grand River in Robinson Township, Ottawa County. The wetland mitigation and monitoring plan will be included in the Act 451, Part 303 permit to be obtained from the MDEQ.

C. *Floodplains* - The total amount of fill within the floodplain for both the service road and I-196 ramps is estimated at 23,000 cubic yards. The removal of the existing bridge and supports for the existing Baldwin Street bridge will remove approximately 22,500 cubic yards from the floodplain. The remaining 500 cubic yards of compensatory cut will be accomplished on site in the floodplain or at the Fish Farm wetland mitigation site.

D. *Water Quality* - Roadway runoff will be treated by maximizing the use of vegetated swales for drainage conveyance and minimizing the direct discharge of bridge runoff. Any disturbed groundwater wells and sanitary sewer lines will be properly addressed. All storm water outfalls will be properly labeled.

## **III. Cultural Environment**

A. *Historic Resource* - The SHPO has determined that the proposed work will have no adverse effect on historic properties. A small vacant portion of the Jenison Baptist Temple property will be acquired, but no buildings, trees, or parking areas will be impacted. If design changes occur in the vicinity of the historic property, the MDOT Historian must review the changes.

## **IV. Hazardous/Contaminated Materials**

A. *Project Contamination* - A Preliminary Site Investigation (PSI) was performed for this project. Potential areas of concern have been identified and additional review (and testing if required) will occur during the design phase when slope-stake lines and construction limits are determined.

B. *Contamination Exposure* - A Workers Health and Safety Plan will be prepared if any asbestos, lead, or other contamination is identified.

## **V. Construction**

- A. *Construction Permits* - Permits under Act 451, Parts 31, 301, and 303, are required from the MDEQ for this project. Coverage under the National Pollutant Discharge Elimination System (NPDES), which is administered by the MDEQ, is also required.
- B. No work will occur in the Rush and Buck Creek channels from March 1 to April 30 and September 15 to November 30 to protect fish spawning for salmon and steelhead.
- C. Water from dewatering of cofferdams used for work in Rush and Buck Creeks will be treated prior to discharge.